Presentation Overview

Fungal Ecology 101
- What they are
- What they eat

Identifying Mushrooms
- Noteworthy characteristics

Field Safety

PNW Edible Mushrooms and their Lookalikes
Fungal Ecology 101: What they are
Fungal Ecology 101: What they eat

- **Mycorrhizal**
  Form symbiotic partnership with host trees
Fungal Ecology 101: What they eat

- **Mycorrhizal**

- **Saprobic**
  Produce enzymes that decompose organic material

Brown “cube” rot
Digests cellulose

White rot
Digests lignin
Fungal Ecology 101: What they eat

- **Mycorrhizal**

- **Saprobic**

- **Parasitic**
  
  Attack living plants, cause disease or death

*Armillaria* root rot

*Armillaria ostoyae*
Identifying mushrooms

Fertile Surface: Form and attachment

Gills

Pores

Teeth
Identifying mushrooms

Fertile Surface: Form and attachment

Gills

Pores

Teeth

Free gills

Attached gills

Decurrent gills
Identifying mushrooms

Stem: Shape of the base

See the difference?
Identifying mushrooms

Stem: Shape of the base

Matsutake
Edible and choice!

Smith’s Amanita
Causes kidney failure!
Identifying mushrooms

Veil (annulus)

*Agaricus subrutiliscens*
Skirt-like veil

*Lepiota rubrotincta*
Ring-like veil

See the difference?
Identifying mushrooms

Veil (annulus)

*Agaricus subrutillescens*
Skirt-like veil
Edible and choice!

*Lepiota rubrotincta*
Ring-like veil
Probable liver toxins!
Identifying mushrooms

Habitat & substrate

Lyophyllum decastes
Grows in forests, along trails
Edible

Clitocybe dealbata
Grows in grass, lawns
Causes profuse sweating
Identifying mushrooms

Spore prints
Identifying mushrooms

Mushrooms Demystified
by David Arora
Identifying mushrooms

Dichotomous keys

1. Spore print brown ......2
1. Spores print white ......5

2. Grows in lawn ......3
2. Grows in forest ......4

3. Has annulus ......*Agaricus*
3. Lacks annulus ......*Inocybe*

4. Has annulus ......*Cortinarius*
4. Lacks annulus ......*Hebeloma*

5. etc.....
Field safety

Always be sure of your ID before eating anything!!!
- “If in doubt, throw it out”

Don’t get lost, stay with a buddy
- Carry compass and whistle

Mushroom season is also deer season
- Wear bright colors
- Leave your antler hat at home

Regulations & private property
- Permitting differs from forest to forest
- ORS 164.813 requires written permit from landowner
Edible Fungi and their Lookalikes
Golden Chanterelle: *Cantharellus formosus*

Distinguishing features:
- Growing on ground (not wood)
- Cap apricot to pale orange, not scaly
- Stem thick and solid
- Gills blunt and wrinkled, decurrent, slightly paler than cap
- Spore print cream to yellowish

Not uncommon to be mutated
- Still good to eat!
Chanterelle Lookalikes: *Turbinellus (Gomphus) flocossus* “Scaly False Chanterelle”

Causes stomach upset

Distinguishing features:
- Terrestrial
- Stem solid
- Cap reddish to bright orange
- Gills blunt and wrinkled, decurrent, *much paler* than cap
- Cap deeply umbilicate (trumpet-like)
- Cap with incurved scales
- Spore print tan to ochre
Chanterelle Lookalikes: *Chroogomphus tomentosus* “Pine Spike”

Edible but not incredible

Distinguishing features:
Texture soft, felty
Gills blade-like, smoky orange, decurrent
Cap orange, minutely fuzzy
Stalk slender, equal
Growing on ground
Spore print smoky olive to black
Chanterelle Lookalikes: *Hygrophoropsis aurantiaca* “False Chanterelle”

Poisonous

**Distinguishing features:**
- Small stature
- Stem hollow
- Gills blade-like, attached to decurrent
- Cap some shade of reddish to bright orange, darker in the middle
- Growing on decaying wood
- Spore print white to cream
White Chanterelle

Distinguishing features:
Terrestrial
Cap white to pale cream
Gills blunt and wrinkled, decurrent, white to pale pinkish
Stem solid
Cap not scaly
Spore print cream to yellowish
White Chanterelle Lookalike: *Gomphus kauffmannii*
“Woolly False Chanterelle”

Causes stomach upset

Distinguishing features:
Terrestrial
Cap beige to light brown
Gills blunt and wrinkled, decurrent, pallid white
Stem solid
*Cap with incurved scales*
Spore print tan to ochre
Lobster Mushroom: *Russula brevipes* parasitized by *Hypomyces lactifluorum*

**Distinguishing features:**
- Entire mushroom lobster orange
- Generally firm texture, but often with lots of punky areas - trim liberally!
- Gills fused together, only visible as faint radiating ridges on underside of cap
- Often mostly buried

Nothing else looks like it!
Matsutake: *Tricholoma magnivelare*

**Distinguishing features:**
- Stem equal or tapered at base
- Odor distinctive, of cinnamon and dirty socks
- Cap white with orangish-reddish fibrils or discoloration, firm in texture
- Tissue fibrous, like string cheese
- Veil can disappear with age
Matsutake Lookalike: *Catathelasma imperialis*

**Edible**

**Distinguishing features:**
- Flesh very firm, almost woody
- Odor farinaceous
- Gills slightly decurrent
- Stem tapered at base
- Can get very large
Matsutake Lookalikes: *Amanita silvicola* & *A. smithiana*

**Distinguishing features:**
- Stem bulbous at base
- Odor merely fungal or musty
- Cap often has soft, felty texture

If the base of the stem is not present, be very cautious!!!

Both poisonous!
King Bolete: *Boletus edulis*

**Distinguishing features:**
- Cap pale to orangish brown
- Pores fine, 2-5 per mm
- Apex of stem with reticulate pattern
- Can get large, but are usually buggy by then
- Pore surface white to pale yellow, *not* staining
King Bolete Lookalikes: Any number of other Boletes

Distinguishing features:
If any part of it stains blue when bruised, OR
If the apex of stem lacks a reticulate pattern, OR
If the pore surface or stem have any reddish tints, OR
If the pores are larger (>1 mm), then...

TOSS IT!
King Bolete Lookalikes: *Suillus*

**Distinguishing features:**
- Pores larger (1-3 mm), often radially arranged
- Cap surface frequently slimy

"Slippery Jack" - edible but squishy
Lactarius rubrilacteus & L. deliciosus

**Distinguishing features:**
- Cap and stem orange, cap often with concentric rings
- Cap and gills often staining green
- Cap latex and flesh red *(L. rubrilacteus)* to orange *(L. deliciosus)* on inside
- Stem hollow, brittle
- Mild taste
Lactarius deliciosus Lookalikes: Lactarius rufus, L. riparius

Distinguishing features:
Cap and stem orange to pinkish, not staining green
Cap flesh NOT red to orange on inside
Latex white to yellow
Strong peppery taste
Oyster Mushroom: *Pleurotus ostreatus*

Distinguishing features:
- Growing shelflike on decaying wood, often alder
- White cap
- White decurrent gills and spore print
Oyster Mushroom Lookalike: *Panus rudis*

**Distinguishing features:**
Growing shelflike on decaying wood, usually conifer
Beige to brown cap
Brown gills and spore print

Neither edible nor poisonous
Hedgehog: *Hydnum repandum* & *H. umbilicatum*

**Distinguishing features:**
- Apricot to cream-orange cap
- Teeth under cap cream to pale orange, soft
- Texture brittle, not fibrous or woody
- *H. umbilicatum* is smaller, cap has belly button

No serious lookalikes; *Hydnellum* are large, tough, and woody, with dark teeth
Lobster Mushroom: *Russula brevipes* parasitized by *Hypomyces lactifluorum*

**Distinguishing features:**
- Entire mushroom lobster orange
- Generally firm texture, but often with lots of punky areas - trim liberally!
- Gills fused together, only visible as faint radiating ridges on underside of cap
- Often mostly buried

Nothing else looks like it!
Sulphur Shelf: *Laetiporus coniferarum*

Distinguishing features:
- Usually growing on old-growth stumps or downed logs
- Bright orange top surface, sulphur-yellow underside
- Fresh growing edge is the most tender and tasty
- Also called "Chicken of the woods"
- No serious lookalikes!
Cauliflower Mushroom: *Sparassis radicata*

**Distinguishing features:**
- Usually growing on ground
- Fruiting body of thin ribbonlike folds
- Can get very large, to 40 lbs!

No serious lookalikes!
Questions?

Let’s go find some mushrooms!